



Northern States Power Company

Prairie Island Nuclear Generating Plant

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10 CFR Part 50
Section 50.55a(g)

U S Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

ASME Code Section XI Inspection and Testing Program
Request for a Schedule Extension for RCP Casing Weld Inspection

We are writing this letter to request a schedule extension for a Unit 1 reactor coolant pump casing weld inspection scheduled for the 2nd 10-year Inspection Interval by our ASME Section XI Inspection and Testing Program.

ASME Section XI requires volumetric and visual examination of the pump casing weld at or near the end of the inspection interval. We had requested relief from this requirement and an extended surface examination of the weld exterior to the extent practical was proposed as part of the alternative. This relief was granted in December 1984. We had completed all of the inspections required for the Unit 1 2nd 10-year interval with the exception of this weld examination during the refueling outage completed this last summer. During preparation of the summary report we discovered that we had inadvertently omitted this examination. We have until December 16, 1994 to complete the examination. However, this examination would require a unit shutdown. As we considered this situation, we found that Code Case N-481 dated March 5, 1990, which has been approved for use by Regulatory Guide 1.147 Revision 10, is applicable as an alternative to the Code required volumetric examination.

The Code Case requires 5 items in lieu of the volumetric examination requirement of the Code. These are:

- (a) Perform VT-2 visual examination of the exterior of all pumps during the hydrostatic pressure test required by Table IWB-2500-1, Category B-P.
- (b) Perform a VT-1 visual examination of the external surfaces of the weld of one pump casing.

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- (c) Perform a VT-3 visual examination of the internal surfaces whenever a pump is disassembled for maintenance.
- (d) Perform an evaluation to demonstrate the safety and serviceability of the pump casing. The evaluation shall include the following:
 - (1) evaluating material properties, including fracture toughness values;
 - (2) performing a stress analysis of the pump casing;
 - (3) reviewing the operating history of the pump;
 - (4) selecting locations for postulating flaws;
 - (5) postulating one-quarter thickness reference flaw under the governing stress conditions;
 - (6) establishing the stability of the selected flaw under the governing stress conditions;
 - (7) considering thermal aging embrittlement and any other processes that may degrade the properties of the pump casing during service.
- (e) A report of this evaluation shall be submitted to the regulatory and enforcement authorities having jurisdiction at the plant site for review.

The following reflects the Unit 1 status with regard to the Code Case requirements:

- (a) The pump casings passed the VT-2 during the 10-year hydrostatic pressure test.
- (b) We cannot perform this examination until the Unit is at cold shutdown, we are requesting scheduler relief for this requirement.
- (c) This requirement is currently not applicable for the Unit 1 pumps since they have not been disassembled for maintenance during the 2nd 10-year interval.
- (d) A generic evaluation for our pumps has been done (WCAP-13045, September 1991, "Compliance to ASME Code Case N-481 of the Primary Loop Pump Casings of Westinghouse Type Nuclear Steam Supply Systems". This evaluation concludes: "All Model 93A pump casings and those of similar design and material (SA361 CFS Stainless Steel) are in compliance with Item (d) of SAME Code Case N-481." Prairie Island has Model 93A reactor coolant pumps. We have contracted to have a Prairie Island specific evaluation performed to demonstrate the safety and serviceability of the pump casing in consideration of the operating history of our pumps.

We believe the alternative requirements of the Code Case provide a more meaningful evaluation of the condition of pump casing than those in our original request for relief and we therefore intend to apply all of these requirements. However, since we cannot complete the visual examination of the casement weld as required prior to December 16, 1994, we request schedular relief until the next refueling shutdown for Unit 1 (presently scheduled for January 6, 1996). Additionally, the Prairie Island specific evaluation required by the Code Case will not be completed until January 1995; we, therefore, request schedular relief from this requirement until January 31, 1995. The Unit 2 requirements will be met within the time limits of the Code.

Based on the acceptable VT-2 visual examination results obtained during the 10-year hydrostatic pressure test and the conclusions of the generic evaluation of our pump model, we believe that there is adequate assurance of the integrity of the pump casing weld to allow operation for an additional 13 months before completing the examination (additional 6 weeks before completion of the specific evaluation).

If this schedular relief is granted, two new NRC commitments have been made:

Performance of the VT-1 visual examination of the external surfaces of the weld on one Unit 1 reactor coolant pump casing during the next refueling shutdown for Unit 1.

Complete the specific evaluation as specified in Code Case N-481 by January 31, 1994.

Please contact Jack Leveille (612-388-1121, Ext. 4662) if you have any questions related to this request.

Michael D. Wally for

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Director
Licensing and Management Issues

c: Regional Administrator - Region III, NRC
Senior Resident Inspector, NRC
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State of Minnesota
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